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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/804,250	03/13/2001	Yutaka Kai	837.1963/JDH	9136
21171	7590	03/25/2004	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			JACKSON, CORNELIUS H	
			ART UNIT	PAPER NUMBER
			2828	

DATE MAILED: 03/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/804,250

Applicant(s)

KAI ET AL.

Examiner

Cornelius H. Jackson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Acknowledgment*

1. Acknowledgment is made that applicant's Amendment, filed on 26 December 2002, has been entered. Upon entrance of the Amendment, claims 1, 9, 13, 18 and 21-24 were amended. Claims 1-24 are now pending in the present application.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

3. Claims 1-6 and 8-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Stayt, Jr. et al. (6389046). Regarding claim 1, Stayt, Jr. et al. disclose a light source device **Figs. 1 and 4** comprising a plurality of laser diodes **110/111**; a temperature sensor **190** provided in the vicinity of the plurality of laser diodes **110/111**; a control loop **700/790** for controlling the temperature of the plurality of laser diodes **110/111**

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according to an output from the temperature sensor **190** and temperature control conditions for the laser diodes **110/111** to thereby control the oscillation wavelengths of the plurality of the laser diodes **110/111**; and means for compensating the temperature control conditions, **see col. 5, line 60-col. 6, line 39 and col. 7, line 1-col. 8, line 3.**

Regarding claim 2, Stayt, Jr. et al. disclose the oscillation wavelengths of the plurality of laser diodes are different from one another and are selectively driven, **see Fig. 4.**

Regarding claim 3, Stayt, Jr. et al. disclose the temperature sensor is a thermistor **190**, **see col. 8, lines 6-8.**

Regarding claim 4, Stayt, Jr. et al. disclose the change in the temperature control condition for the reference laser diode comprises a result of comparison between an initial set temperature and a latest set temperature, whereby a deterioration of the temperature sensor reflects the compensation of the temperature control conditions of the laser diodes other than the reference laser diode, **see col. 5, lines 52-59, col. 6, lines 24-67 and . col. 8, lines 3-8.**

Regarding claim 5, Stayt, Jr. et al. disclose the stated limitations, **see col. 7, lines 1-41.**

Regarding claim 6, Stayt, Jr. et al. disclose the positions of the plurality of laser diodes and the reference laser, **see Figs 1 and 4.**

Regarding claim 8, Stayt, Jr. et al. disclose the stated limitations, **see col. 3, lines 37-60.**

Regarding claims 9-12, Stayt, Jr. et al. teach all of the stated limitations, **see the corresponding claims above**. Also, the recitation that a wavelength control device has not been given patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. *Kropa v. Robie*, 88 USPQ 478 (CCPA 1951).

4. Claims 1-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Volz et al. (6501773). Regarding claim 1, Volz et al. disclose a light source device **Figs. 1A and 8A** comprising a plurality of laser diodes **102/832**; a temperature sensor **812** provided in the vicinity of the plurality of laser diodes **102/832**; a control loop for controlling the temperature of the plurality of laser diodes according to an output from the temperature sensor **812** and temperature control conditions for the laser diodes **102/832** to thereby control the oscillation wavelengths of the plurality of the laser diodes, **see col. 4, lines 13-23 and col. 6, line 21-col. 7, line 13**; and means for compensating the temperature control conditions, **see Fig. 8C and col. 7, lines 14-30**.

Regarding claim 2, Volz et al. disclose the oscillation wavelengths of the plurality of laser diodes are different from one another and are selectively driven, **see Fig. 1**.

Regarding claim 3, Volz et al. disclose the temperature sensor is a thermistor **812**, **see Fig. 8B**.

Regarding claim 4, Volz et al. disclose the change in the temperature control condition for the reference laser diode comprises a result of comparison between an initial set temperature and a latest set temperature, whereby a deterioration of the

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temperature sensor reflects the compensation of the temperature control conditions of the laser diodes other than the reference laser diode, **see col. 6, lines 21-65.**

Regarding claim 5, Volz et al. disclose the stated limitations, **see col. 4, lines 13-23.**

Regarding claims 6 and 7, Volz et al. disclose the positions of the plurality of laser diodes, the reference laser, and temperature sensor, **see Figs. 1, 2, 8A and 8B.**

Regarding claim 8, Volz et al. disclose the stated limitations, **see Fig. 8C and col. 7, lines 14-30.**

Regarding claims 9-12, Volz et al. teach all of the stated limitations, **see the corresponding claims above.** Also, the recitation that a wavelength control device has not been given patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. *Kropa v. Robie*, 88 USPQ 478 (CCPA 1951).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stayt, Jr. et al. (6389046). Stayt, Jr. et al., as applied to claims 1-6 and 8-12 above, teach all of the stated limitations, except for the temperature sensor being positioned near the center of the plurality of laser diode array. It would have been an obvious matter of design choice to place the temperature sensor near the center of the laser array, since applicant has not disclosed that by positioning the temperature sensor near the center of the array solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the temperature sensor positioned near the control laser.

7. Claims 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stayt, Jr. et al. (6389046) as applied to claims 1-12 above, and further in view of Eda et al. (5438579). Stayt, Jr. et al. teach all of the stated limitations, except for the second temperature sensor. Eda et al. teach a second temperature sensor **42**. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use as many temperature sensors as desired in order to obtain a more accurate temperature reading, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. Also it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding claims 14-20, Stayt, Jr. et al. teach all the stated limitations, **see claims 9-12 above.**

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8. Claims 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Volz et al. (6501773) as applied to claims 1-12 above, and further in view of Eda et al. (5438579). ). Volz et al. teach all of the stated limitations, except for the second temperature sensor. Eda et al. teach a second temperature sensor **42**. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use as many temperature sensors as desired in order to obtain a more accurate temperature reading, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. Also it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding claims 14-20, Volz et al. teach all the stated limitations, **see claims 9-12 above**.

### ***Response to Arguments***

Applicant's arguments filed 10 December 2003 have been fully considered but they are not persuasive. Applicant argued the following:

a) Stayt fails to teach or suggest, "means for compensating the temperature control conditions for said laser diodes other than the reference laser diode, according to a change in temperature control condition for said reference laser diode, wherein the



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reference laser diode is operated at temperatures lower than or equal to an ordinary temperature”.

b) Stayt is silent as to teaching or suggesting that the control laser element 150 “is operated at temperatures lower than or equal to an ordinary temperature”.

c) Nothing in Volz teaches or suggests that one of the lasers 102 “is operated at temperatures lower than or equal to an ordinary temperature”.

d) Volz is silent as to teaching or suggesting, , “means for compensating the temperature control conditions for said laser diodes **other than the reference laser diode**, according to a change in temperature control condition **for said reference laser diode**”.

e) Nothing in Stayt and Eda would teach or suggest that the LD temperature sensor 40 or that the ambient temperature sensor 42 is at “a position becoming lower in temperature than a position where said first temperature sensor is provided when driving said plurality of laser diodes”.

f) Applicants respectfully assert that the Office Action has provided an improper motivation to combine the references as it is set forth that, in a prima facie obviousness case, evidenced motivation must be provided indicating why one skilled in the art would be motivated, lead, or suggested to modify an existing reference in view of another reference.

In response to applicant's arguments:

a) Stayt teaches the stated limitation since the controller 710 evaluates which evaluates differences in the input signals and produces a control signal 720 indicative of valuation differences between the two amplified electrical signals. The control signal is communicated to the temperature controller 800 through the closed feedback loop 700, wherein the temperature controller adjusts the control laser element 150 to output 160 at the desired wavelength, **see col. 6, lines 1-39**.

b) It has been held that the recitation that an element is "operable" to perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. In re Hutchison, 69 USPQ 138.

c) It has been held that the recitation that an element is "operable" to perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. In re Hutchison, 69 USPQ 138.

d) Volz teaches a laser driver 806, which gathering information concerning the temperature control conditions from the TE Cooler driver 818 and the power of the laser device from the power detector 804, and uses that information to compensate for "the temperature control conditions for said laser diodes **other than the reference laser diode**, according to a change in temperature control condition **for said reference laser diode**".

e) It is inherent that the LD temperature sensor 40 is positioned close to or on the LD and it is also inherent that the ambient temperature sensor 42 is at "a position becoming lower in temperature than a position where said first temperature sensor is

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provided when driving said plurality of laser diodes", since the ambient is used as heat sink to cool the LD.

f) The Office Action has provided proper motivation to combine the two references reference in view of another as being to obtain a more accurate temperature reading of the laser device. Also, Eda teaches for stabilizing an oscillation wavelength without being affected due to a variation of ambient temperature and a variation of an LD with the passage of time, **see col. 3, lines 1-4**.

### ***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cornelius H. Jackson whose telephone number is

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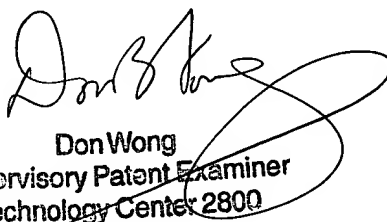
(571)272-1942. The examiner can normally be reached on 8:00 - 5:00, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (571)272-1941. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



chj



Don Wong  
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